

TESSIER et al. -- 10/052,491
Client/Matter: 030442-1290625
Page 2

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application (in the unlikely event that no claims follow herein, the previously pending claims will remain):

1. (Original) A plug for thermoforming operations composed of a syntactic foam comprising:
a thermoplastic resin having a melting point and/or Tg at least 5° C higher than the design operating temperature of said thermoforming operation, and a hollow filler having a lower density than said resin.
2. (Original) The plug according to claim 1, wherein said thermoplastic resin has a melting point and/or Tg of greater than 180° C.
3. (Original) The plug according to claim 1, wherein said thermoplastic resin has a melting point and/or Tg of greater than 200° C.
4. (Original) The plug according to claim 1, wherein said thermoplastic resin comprises a polyamide, polycarbonate, polyurethane, polyester, polyacrylate, and/or copolymers and/or mixtures thereof.
5. (Original) The plug according to claim 4, wherein said thermoplastic resin comprises a polyamide formed from a lactam monomer having at least 6 carbon atoms.
6. (Original) The plug according to claim 5, wherein said thermoplastic resin comprises nylon 6, nylon 6.6 or mixtures thereof.
7. (Original) The plug according to claim 1, wherein said syntactic foam comprise less than 70 vol.% of said hollow filler.

TESSIER et al. — 10/052,491
Client/Matter: 030442-0290625
Page 3

8. (Original) The plug according to claim 1, wherein said hollow filler includes glass microspheres, hollow polymeric microspheres, hollow ceramic microspheres, microspheres of urea-formaldehyde resin and/or phenol formaldehyde resin.

9. (Withdrawn) A process for forming the plug according to claim 1, wherein said plug is formed in-situ from a mixture comprising said filler and a monomer which is polymerized in a mold that at least approximates the shape of a desired plug.

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Currently amended) An article formed by ~~the process of claim 13~~ thermoforming at least one article using the plug according to claim 1.

15. (New) A syntactic foam plug for thermoforming operations, the plug consisting essentially of:

a plurality of hollow fillers substantially evenly distributed in a non-thermosetting resin material, the filler having a density lower than a density of the non-thermosetting resin.

16. (New) The plug of claim 15, wherein the non-thermosetting resin has a melting point and/or Tg of greater than 180° C.

17. (New) The plug of claim 15, wherein the non-thermosetting resin has a melting point and/or Tg of greater than 200° C.

TESSIER et al. - 10/05 2,491
Client/Matter: 030442-0:90625
Page 4

18. (New) The plug of claim 15, wherein said non-thermosetting resin is selected from the group consisting of a polyamide, polycarbonate, polyurethane, polyester, polyacrylate, and/or copolymers and/or mixtures thereof

19. (New) The plug of claim 18, wherein the non-thermosetting resin is a polyamide formed from a lactam monomer having at least 6 carbon atoms.

20. (New) The plug of claim 19, wherein the non-thermosetting resin is nylon 6, nylon 6.6 or mixtures thereof.

21. (New) The plug of claim 15, wherein the syntactic foam comprises less than 70 vol.% of the hollow filler.

22. (New) The plug of claim 15, wherein the hollow filler includes glass microspheres, hollow polymeric microspheres, hollow ceramic microspheres, microspheres of urea-formaldehyde resin and/or phenol-formaldehyde resin.

23. (New) The plug of claim 22, wherein the non-thermosetting resin is selected from the group consisting of a polyamide, polycarbonate, polyurethane, polyester, polyacrylate, copolymers thereof, and mixtures thereof.

TESSIER et al. - 10/05/91,491
Client/Matter: 030442-0290625
Page 5

24. (New) The plug of claim 15, wherein the plug is essentially coating free.
25. (New) A syntactic foam plug for thermoforming operations, the plug comprising:
a plurality of hollow fillers substantially evenly distributed in a non-thermosetting matrix material, the filler having a density lower than the density of the non-thermosetting matrix material;
wherein said non-thermosetting resin is selected from the group consisting of a polyamide, polycarbonate, polyurethane, polyester, polyacrylate, copolymers thereof, and mixtures thereof.
26. (New) The plug of claim 25, wherein the non-thermosetting resin has a melting point and/or Tg of greater than 180° C.
27. (New) The plug of claim 25, wherein the non-thermosetting resin has a melting point and/or Tg of greater than 200° C.
28. (New) The plug of claim 25, wherein said non-thermosetting resin is at least a polyamide.
29. (New) The plug of claim 28, wherein the non-thermosetting resin is a polyamide formed from a lactam monomer having at least 6 carbon atoms.
30. (New) The plug of claim 29, wherein the non-thermosetting resin is nylon 6, nylon 6.6 or mixtures thereof.
31. (New) The plug of claim 25, wherein the syntactic foam comprises less than 70 vol.% of the hollow filler.

TESSIER et al.. -- 10/05:491
Client/Matter: 030442-0290625
Page 6

32. (New) The plug of claim 25, wherein the hollow filler includes glass microspheres, hollow polymeric microspheres, hollow ceramic microspheres, microspheres of urea-formaldehyde resin and/or phenol-formaldehyde resin.

33. (New) The plug of claim 25, wherein the plug is essentially coating free.

34. (New) A plug for thermoforming operations composed of a syntactic foam, the plug consisting essentially of

a thermoplastic resin having a melting point and/or Tg at least 5° C higher than the design operating temperature of said thermoforming operation, and a hollow filler having a lower density than said resin.